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(71) Applicant and

(72) Inventor: COY, Johannes [DE/DE]; In den Schwarzen Gärten 1, 63762 Grossostheim (DE).

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WO 03/089667 A1

(54) Title: COMPOSITIONS AND METHODS FOR DETECTION AND TREATMENT OF PROLIFERATIVE ABNORMALITIES ASSOCIATED WITH OVEREXPRESSION OF HUMAN TRANSKETOLASE LIKE-1 GENE

(57) Abstract: The present invention relates to methods for treatment and diagnosis of disorders associated with abnormally proliferating cells. In one aspect the invention relates to methods, which are especially useful for the detection of tumors and their precursory stages based on the detection of overexpression of human transketolase like-1 gene in biological samples. In another aspect the invention relates to methods for treatment of disorders associated with the overexpression of human transketolase like-1 gene. Methods for treatment may include gene therapeutic approaches as well as methods for inhibiting or reducing the activity of transketolase like-1 polypeptides.

## INTERNATIONAL SEARCH REPORT

Int'l Application No  
PCT/EP 03/03827

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, PAJ, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	COY J F ET AL: "MOLECULAR CLONING OF TISSUE-SPECIFIC TRANSCRIPTS OF A TRANSKETOLASE-RELATED GENE: IMPLICATIONS FOR THE EVOLUTION OF NEW VERTEBRATE GENES" GENOMICS, ACADEMIC PRESS, SAN DIEGO, US, vol. 32, no. 3, 15 March 1996 (1996-03-15), pages 309-316, XP000616489 ISSN: 0888-7543	18-20
Y	the whole document	1-29
X	WO 97 05253 A (DEUTSCHES KREBSFORSCH ;POUSTKA ANNEMARIE (DE); COY JOHANNES (DE)) 13 February 1997 (1997-02-13)	18-20
Y	the whole document	1-29
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*Z\* document member of the same patent family

Date of the actual completion of the international search

8 July 2003

Date of mailing of the international search report

15/07/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Bort, S

## INTERNATIONAL SEARCH REPORT

Int. Patent Application No  
PCT/EP 03/03827

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CASCANTE ET AL.: "Role of thiamin (vitamin B-1) and transketolase in tumor cell proliferation" NUTRITION AND CANCER, vol. 36, no. 2, 2000, pages 150-154, XP008012308 the whole document ---	30,33
X	SPENTZOS ET AL.: "Transketolase gene expression may be a marker of sensitivity to platinum/paclitaxel chemotherapy in ovarian cancer" PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH ANNUAL MEETING , vol. 43, March 2002 (2002-03), pages 1105-1106, XP008012309 the whole document ---	31,32
Y	LYNCH ET AL.: "Hereditary cancer: family history, diagnosis, molecular genetics, ecogenetics, and management strategies" BIOCHIMIE, vol. 84, no. 1, January 2002 (2002-01), pages 3-17, XP001148125 the whole document ---	1-29
A	WO 98 53319 A (KINZLER KENNETH W ;VOGELSTEIN BERT (US); UNIV JOHNS HOPKINS (US)) 26 November 1998 (1998-11-26) abstract; claims 2,29,52 ---	1-17
A	WO 00 52204 A (ORNTOLT TORBEN F) 8 September 2000 (2000-09-08) abstract; claims 8,12,22 -----	1-17

# INTERNATIONAL SEARCH REPORT

.....national application No.  
PCT/EP 03/03827

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 21-27, 30-33 (all partially)  
because they relate to subject matter not required to be searched by this Authority, namely:  
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☒ Claims Nos.: 30, 33 (all partially)  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## Continuation of Box I.1

Although claims 21-27, 31 and 32 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effect.

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## Continuation of Box I.1

Claims Nos.: 21-27, 30-33 (all partially)

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

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## Continuation of Box I.2

Claims Nos.: 30, 33 (all partially)

Independent claim 30 refers to a pharmaceutical compositions for the treatment of certain types of cancer, defined by reference to a desirable characteristic or property, namely the method of claim 29. The claim covers all compositions having this characteristic although the application does not provide support therefor within the meaning of Article 6 PCT. The lack of support/disclosure in the present case is such that any compound used to treat cancer will fall under the scope of protection. Consequently, the search of claim 30 has been limited to any antihistamine compound, inhibitor or transketolase enzyme activity, transketolase like-1 polypeptide or human transketolase like-1 nucleic acid

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Intd onal Application No

PCT/EP 03/03827

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9705253	A	13-02-1997	DE 19527552 A1	30-01-1997
			WO 9705253 A2	13-02-1997
			EP 0840789 A2	13-05-1998
			JP 11510382 T	14-09-1999
			US 6133005 A	17-10-2000
WO 9853319	A	26-11-1998	AU 7499198 A	11-12-1998
			WO 9853319 A2	26-11-1998
WO 0052204	A	08-09-2000	AU 3316600 A	21-09-2000
			WO 0052204 A2	08-09-2000
			US 6335170 B1	01-01-2002